Claims:

1. (Original) A functional polymer that is defined by the formula

$$\pi\text{-}R^1\text{-}\alpha$$

where π is a polymer chain, R^1 is a bond or a divalent organic group, and α is a sulfur-containing heterocycle selected from a thiirane, thietane, thiolane, thiazoline, dihydrothiophene, thiadiazine, thioxanthene, thianthrene, phenoxathiin, dihydroisothiazole, or thienofuran group or substituted form thereof.

2. (Currently amended) A method for preparing a functional polymer, the method comprising:

terminating a living polymer chain with a functionalizing agent where the functionalizing agent is defined by the formula

$$Z\text{-}R^4\text{-}\alpha$$

where Z is a leaving group or an addition group, R^4 is a bond or a divalent organic group, and α [[s]] <u>is</u> a sulfur-containing heterocycle selected from a thiirane, thietane, thiolane, thiazoline, dihydrothiophene, thiadiazine, thioxanthene, thianthrene, phenoxathiin, dihydroisothiazole, or thienofuran group or substituted form thereof.

3. (Currently amended) A method for preparing a cured tire component, the method comprising:

providing a rubber formulation comprising at least one vulcanizable rubber and a filler, where the at least one vulcanizable rubber is a functional polymer that is defined by the formula

$$\pi\text{-}R^1\text{-}\alpha$$

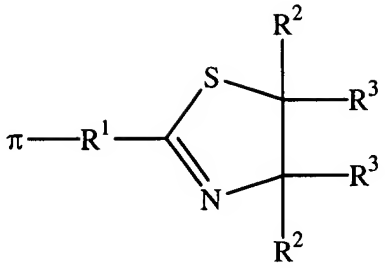
where π is a polymer chain, R^1 is a bond or a divalent organic group, and α is a sulfur-containing heterocycle selected from a thiirane, thietane, thiolane, thiazoline, dihydrothiophene, thiadiazine, thioxanthene, thianthrene, phenoxathiin, dihydroisothiazole, or thienofuran group or a substituted form thereof;

forming the rubber formulation into an uncured tire component;

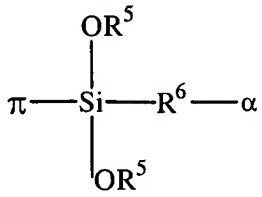
vulcanizing the uncured tire component to form a cured tire component.

4. (Previously presented) The polymer of claim 1, where the functional polymer can be

defined by the formula



where π is a polymer chain, R^1 is a bond or a divalent organic group, each R^2 is independently hydrogen or a monovalent organic group, each R^3 is independently hydrogen or a monovalent organic group, or where each R^3 combine with each other to form a divalent organic group; or where the functional polymer can be defined by the formula



where π is a polymer chain, each R^5 is independently a monovalent organic group, R^6 is a bond or a divalent organic group, and α is a sulfur-containing heterocycle.

5. (Previously presented) The polymer of claim 1, where R^1 includes the residue of an addition reaction between an addition group and a living polymer, and wherein the addition group comprises a nitrile group, a Schiff base, a ketone group, an aldehyde group, or an ester group.

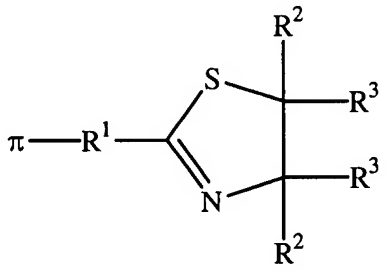
6. (Previously presented) The polymer of claim 1, where the polymer chain is a rubbery polymer having a Tg that is less than 0°C.

7. (Previously presented) The polymer of claim 1, where the polymer chain is polybutadiene, polyisoprene, poly(styrene-*co*-butadiene), poly(styrene-*co*-butadiene-*co*-isoprene), poly(isoprene-*co*-styrene), or poly(butadiene-*co*-isoprene).

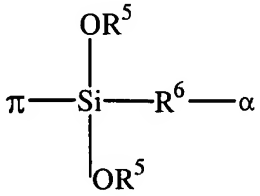
8. (Currently amended) The method of claim 2, ~~here~~ where Z comprises a halide, a thio alkoxide group, an alkoxide group, a dialkyl amine group, a nitrile group, a Schiff base, a ketone group, an aldehyde group, or an ester group.

9. (Original) The method of claim 3, where the filler is carbon black, silica or both.

10. (Previously presented) The method of claim 3, where the functional polymer can be defined by the formula



where π is a polymer chain, R^1 is a bond or a divalent organic group, each R^2 is independently hydrogen or a monovalent organic group, each R^3 is independently hydrogen or a monovalent organic group, or where each R^3 combine with each other to form a divalent organic group; or where the functional polymer can be defined by the formula



where π is a polymer chain, each R^5 is independently a monovalent organic group, R^6 is a bond or a divalent organic group, and α is a sulfur-containing heterocycle.

11. (Previously presented) The method of claim 3, where R^1 includes the residue of an addition reaction between an addition group and a living polymer, and wherein the addition group comprises a nitrile group, a Schiff base, a ketone group, an aldehyde group, or an ester group.

12. (Previously presented) The method of claim 2, where the polymer chain is a rubbery polymer having a Tg that is less than 0°C.

13. (Previously presented) The method of claim 3, where the polymer chain is a rubbery polymer having a Tg that is less than 0°C.

14. (Previously presented) The method of claim 2, where the polymer chain is polybutadiene, polyisoprene, poly(styrene-*co*-butadiene), poly(styrene-*co*-butadiene-*co*-isoprene), poly(isoprene-*co*-styrene), or poly(butadiene-*co*-isoprene).

15. (Previously presented) The method of claim 3, where the polymer chain is polybutadiene, polyisoprene, poly(styrene-*co*-butadiene), poly(styrene-*co*-butadiene-*co*-isoprene), poly(isoprene-*co*-styrene), or poly(butadiene-*co*-isoprene).